AMENDMENTS TO THE CLAIMS

1. (Currently Amended)   A method for array design, comprising:

~~(a) selecting, by~~ receiving from a customer, at least one array design parameter and notification of at least one gene of interest;

~~(b) providing said at least one customer-selected array design parameter and said at least one gene of interest to a vendor;~~

database searching to obtain sequence data for probe selection for said at least one gene of interest;

~~(c)~~ curating~~, by said vendor, a~~ said sequence data after said database searching ~~for said at least one gene of interest~~;

~~(d)~~ selecting~~, by said vendor,~~ at least one probe specific for said curated sequence data;

~~(e)~~ providing~~, by said vendor,~~ at least one additional array design parameter; and

~~(f)~~ completing at least one array design using said at least one ~~customer-selected~~ array design parameter received from said customer, said at least one ~~vendor-selected~~ probe specific for said curated sequence data, and said at least additional ~~one vendor-provided~~ array design parameter.

2. (Currently Amended) The method of claim 1, wherein said completing is carried out by a ~~said~~ vendor.

3. (Original) The method of claim 1, wherein said completing is carried out by said customer.

4. (Previously Presented) The method of claim 1, wherein said array design is for a nucleic acid array.

5. (Currently Amended) The method of claim 1, wherein said at least one ~~customer-selected~~ array design parameter received from said customer comprises layout parameters.

6. (Currently Amended) The method of claim 1, wherein said at least one ~~customer-selected~~ array design parameter received from said customer comprises probe parameters.

7. (Currently Amended) The method of claim 1, wherein said at least one ~~customer selected~~ array design parameter <u>received from said customer</u> comprises control probe parameters.

8. (Original) The method of claim 1, further comprising generating a visual interface for said customer, said visual interface providing a display with parameter selection options for said selecting.

9. (Previously Presented) The method of claim 8, wherein said generating said visual interface further comprises generating a visual display of an array layout for said customer, which visual display includes said at least one customer selected array design parameter.

10. (Currently Amended) The method of claim 9, further comprising reviewing, by said customer, said at least one ~~customer selected~~ array design parameter <u>received from said customer</u>, as shown on said visual display of said array layout.

11. (Currently Amended) The method of claim 9, further comprising revising, by said customer, said at least one ~~customer selected~~ array design parameter <u>received from said customer</u>.

Claims 12-21 (Canceled)

22. (Currently Amended) A gene-based array design system, comprising:

~~(a)~~ means for <u>receiving</u> ~~selecting, by an array customer,~~ <u>notification of</u> at least one gene of interest <u>from an array customer</u>;

~~(b) means for providing said at least one customer selected gene of interest to a vendor;~~

<u>means for database searching to obtain sequence data for probe selection for said at least one gene of interest;</u>

~~(c)~~ means for curating, ~~by said vendor,~~ said sequence <u>data after database searching by said means for database searching to obtain said sequence data</u>~~information for said at least one customer selected gene of interest~~;

~~(d)~~ means for selecting, ~~by said vendor,~~ a plurality of nucleic acid probes specific for said <u>at least one</u> ~~customer selected~~ gene of interest; and

~~(e)~~ means for completing at least one array design that includes at least one of said <u>plurality of</u> ~~vendor selected~~ nucleic acid probes specific for said <u>at least one</u> ~~customer selected~~ gene of interest.

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Claims 23-26. (Canceled)

27. (Currently Amended) A method for gene-based array design, comprising:

(a) receiving notification of ~~selecting, by a customer,~~ at least one gene of interest from a customer;

~~(b) providing said at least one customer selected gene of interest to a vendor;~~

database searching to obtain sequence data for probe selection for said at least one gene of interest;

~~(c)~~ curating~~, by said vendor,~~ said sequence data after said database searching ~~information for said at least one customer selected gene of interest~~;

~~(d)~~ selecting~~, by said vendor,~~ a plurality of nucleic acid probes ~~specific~~ for said at least one ~~customer-selected~~ gene of interest; and

~~(e)~~ completing at least one array design that includes at least one of said ~~vendor-selected~~ nucleic acid probes specific for said at least one ~~customer-selected~~ gene of interest.

28. (Previously Presented) The method of claim 27, further comprising fabricating said at least one designed array.

Claims 29-30. (Canceled)

31. (Currently Amended) The method of claim 27, wherein said completing is carried out by a ~~said~~ vendor.

32. (Previously Presented) The method of claim 27, wherein said completing is carried out by said customer.

33. (Currently Amended) The method of claim 27, further comprising receiving ~~selecting, by said customer,~~ other array design parameters from said customer.

34. (Currently Amended) The method of claim 33, wherein said other ~~customer-selected~~ array design parameters comprise layout parameters.

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35. (Currently Amended) The method of claim 33, wherein said other ~~customer-selected~~ array design parameters comprise probe parameters.

36. (Currently Amended) The method of claim 33, wherein said other ~~customer-selected~~ array design parameters comprise control probe parameters.

37. (Previously Presented) The method of claim 27, further comprising generating a visual interface for said customer, said visual interface providing a display with parameter selection options for said selecting.

Claims 38-40. (Canceled)

41. (Previously Presented) The method of claim 28, wherein said array fabrication is in-situ array fabrication.

42. (Currently Amended) The method of claim 1, wherein said curating comprises checking the sequence data for errors, removal of commonly repeated subsequences, and/or removal of any artifacts associated with sequence assembly.

43. (Currently Amended) The method of claim 22, wherein said curating comprises checking the sequence data for errors, removal of commonly repeated subsequences, and/or removal of any artifacts associated with sequence assembly.

44. (Currently Amended) The method of claim 27, wherein said curating comprises checking the sequence data for errors, removal of commonly repeated subsequences, and/or removal of any artifacts associated with sequence assembly.

Claims 45-46. (Canceled)

47. (Currently Amended) The method of claim 1, wherein said curating comprises checking the sequence data for errors.

48. (Currently Amended) The method of claim 1, wherein said curating comprises ~~said~~ removal of commonly repeated subsequences.

49. (Previously Presented) The method of claim 1, wherein said curating comprises removal of any artifacts associated with sequence assembly.